

As required under 37 C.F.R. 1.121, the first paragraph on **page 1**, has been amended to read as follows:

-- RELATED CASES

The present Application is a Continuation of Application 09/071,512 filed May 1, 1998, which relates to: Application Serial No. 08/573,949 filed December 18, 1995; Application Serial No. 08/726,522 filed October 7, 1995; Application Serial No. 08/886,806 filed April 22, 1997, Application Serial No. 08/854,832 filed May 12, 1997; and Application Serial No. 08/949,915 filed October 14, 1997; each said Application being commonly owned by Metrologic Instruments, Inc. of Blackwood, New Jersey, and incorporated herein by reference in its entirety.--

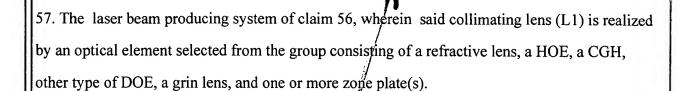
As required under 37 C.F.R. 1.121, Applicants submit herewith the pending claims pursuant to the Amendment filed herewith.

56. A laser beam producing system comprises

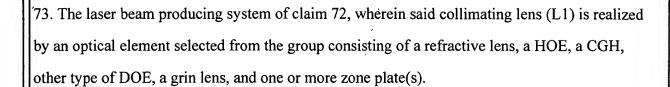
a laser beam source, such as a visible laser diode (VLD), for producing a laser beam from its junction;

a collimating lens (L1) for collimating the laser beam as it is transmitted through collimating lens L1 and through the system in a P-incident manner;

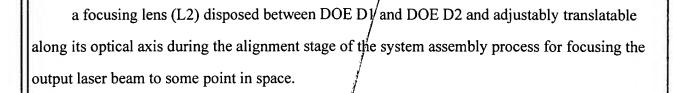
- a fixed spatial-frequency diffractive optical element (DOE) denotable by D1;
- a fixed spatial-frequency diffractive optical element (DOE) denotable by D2; and
- a focusing lens (L2) disposed after the second DOE D2 for focusing the output laser beam to some point in space.



- 58. The laser beam producing system of claim 56, wherein each said DOE is realized by an optical element selected from the group consisting of a HOE, a computer-generated hologram (CGH), a surface-relief hologram, and other diffractive optical element.
- 59. The laser beam producing system of claim 56, wherein said focusing lens (L2) is realized by an optical element selected from the group consisting of a refractive lens, a HOE, a DOE, a grin lens, zone plate(s) or the like, disposed after said second DOE D2, for focusing the output laser beam to some point in space.
- 60. The laser beam producing system of claim 56, wherein the total beam-shaping factor (M=M₁M₂) for the laser beam modifying subsystem is greater than unity (1), that is M1*M2>1, and thus the laser beam leaving the collimating lens (L1) is expanded in one dimension.
- 72. A laser beam producing system comprises:
- a laser beam source, such as a visible laser diode (VLD), for producing a laser beam from its junction;
- a collimating lens (L1) for collimating the laser beam as it is transmitted through collimating lens L1 and through the system in an S-incident manner;
 - a fixed spatial-frequency diffractive optical element (DOE) denotable by D1;
 - a fixed spatial-frequency diffractive optical element (DOE) denotable by D2; and
- a focusing lens (L2) disposed between DOE D1 and DOE D2 and adjustably translatable along its optical axis for focusing the output laser beam to some point in space.



- 74. The laser beam producing system of claim 72, wherein each said DOE is realized by an optical element selected from the group consisting of a HOE, a computer-generated hologram (CGHs), a surface-relief hologram, and other diffractive optical element.
- 75. The laser beam producing system of claim 72, wherein the total beam-shaping factor $(M=M_1M_2)$ for the laser beam modifying subsystem is less than unity (1), that is M1*M2<1, and thus the laser beam leaving the collimating lens (L1) is compressed in one dimension.
- 76. The laser beam producing system of claim 72, wherein each of said DOEs is realized by an optical element selected from the group consisting of a HOE, a CGH, a surface-relief hologram, and other diffractive optical element.
- 77. The laser beam producing system of claim 72, wherein said focusing lens (L2) is realized by an optical element selected from the group consisting of a refractive lens, holographic optical element (HOE), diffractive optical element (DOE), grin lens, and zone plate(s).
- 84. A laser beam producing system comprises:
- a laser beam source, such as a visible laser diode (VLD), for producing a laser beam from its junction;
- a collimating lens (L1) for collimating the laser beam as it is transmitted through collimating lens L1 and through the system in a P-incident manner;
 - a fixed spatial-frequency diffractive optical element (DOE) denotable by D1;
 - a fixed spatial-frequency, diffractive optical element (DOE) denotable by D2; and



- 85. The laser beam producing system of claim 84, wherein said collimating lens (L1) is realized by an optical element selected from the group consisting of a refractive lens, a HOE, a CGH, other type of DOE, a grin lens, and one or more zone plate(s).
- 86. The laser beam producing system of claim 84, wherein each said DOE is realized by an optical element selected from the group consisting of a HOE, a computer-generated hologram (CGHs), a surface-relief hologram, and other diffractive optical element.
- 87. The laser beam producing system of claim 84, wherein each of said DOEs is realized by an optical element selected from the group consisting of a HOE, a CGH, a surface-relief hologram, and other diffractive optical element.
- 88. The laser beam producing system of claim 84, wherein the total beam-shaping factor (M=M₁M₂) for the laser beam modifying subsystem is greater than unity (1), that is M1*M2>1, and thus the laser beam leaving the collimating lens (L1) is expanded in one dimension.
- 89. The laser beam producing system of claim 84, wherein said focusing lens (L2) is realized by an optical element selected from the group consisting of a refractive lens, holographic optical element (HOE), diffractive optical element (DOE), grin lens, and zone plate(s) or the like.